REMARKS

Claim 1 is pending in the present application. Claims 2-6 have been cancelled without prejudice or disclaimer to the subject contained therein.

A. Rejection under 35 U.S.C. §101

Claim 1 has been rejected under 35 U.S.C. §101 as being non-statutory. This rejection is respectfully traversed.

In formulating the rejection under 35 U.S.C. §101, the Examiner apparently asserts that the claimed invention has no useful concrete, and/or tangible result. Moreover, the Examiner apparently asserts that the claimed invention fails to recite a practical application.

As set forth above, independent claim 1 recites a method for descreening a digital image. Moreover, independent claim 1 recites selecting two-dimensional separable filter LLP and two-dimensional separable filter HHP when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry; electronically applying the selected two-dimensional separable filter LLP to a digital image to produce a first filtered image; electronically applying the selected two-dimensional separable filter HHP to a digital image to produce a second filtered image; and subtracting the second filtered image from the first filtered image to generate a descreened digital image.

Selecting the proper filters is a useful process. Moreover, the descreening of a digital image sets forth a practical application of the selected filters. Lastly, the constructed filter provides a useful and tangible result, namely a descreened digital image.

Therefore, the method recited by amended independent claim 1 meets the statutory requirements of 35 U.S.C. §101.

Accordingly, in view of all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the present rejection under 35 U.S.C. §101.

B. Rejection under 35 U.S.C. §112, First Paragraph

Claim 1 has been rejected under 35 U.S.C. §112, first paragraph, for failing to set forth a specific utility. This rejection is respectfully traversed.

In the first Office Action of May 7, 2007, the Examiner asserted that the claims fail to set forth a specific utility. This point was successfully rebutted.

Now the Examiner has presented new grounds for rejection wherein the Examiner asserted that claim 1 is not enabled by the specification because the claim requires a processor or device to carry out the claimed method. This new grounds of rejection was not necessitated by amendment because the Applicant did not delete the recitation of a processor or device from claim 1. Thus, the basis for the alleged non-recitation of a processor or device in claim 1 has been present since its original filing. Thus, the new grounds for rejection have not been necessitated by amendment.

As set forth above, amended independent claim 1 recites a method which selects two-dimensional separable filter LLP and two-dimensional separable filter HHP when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry. Independent claim 1 further recites that the method electronically applies the selected two-dimensional separable filter LLP to a digital image to produce a first filtered image and electronically applies the selected two-dimensional separable filter HHP to a digital image to produce a second filtered image. Lastly, independent claim 1 recites that the method subtracts the second filtered image from the first filtered image to generate a descreened digital image.

Therefore, the method recited by independent claim 1 and the specification meet the statutory requirements of 35 U.S.C. §112, first paragraph.

Accordingly, in view of all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the present rejection under 35 U.S.C. §112, first paragraph.

C. Rejection under 35 U.S.C. §103

Claims 1-6 have been rejected under 35 U.S.C. §103 as being unpatentable over the document entitled Williams et al. (US Patent 5,751,862) in view of Wilkinson (US

Patent 6,018,596), <u>Mendonca</u>, and <u>Curry et al</u>. (US Patent 6,983,076). This rejection is respectfully traversed.

In formulating the rejection, the Examiner alleges that <u>Williams et al</u>. teaches all the method except:

selecting a cut-off frequency and designing therefrom a one-dimensional separable low pass filter (LP), one-dimensional separable low pass filter LP being a row vector having entries $[X_{-n}, X_{-(n-1)}, \ldots X_0, \ldots X_{n-1}, X_n]$;

generating a two-dimensional contour plot for the two-dimensional filter HPP;

generating a two-dimensional filter (ONE) when the two-dimensional contour plot for the two-dimensional separable filter LPP overlaps the two-dimensional contour plot for the two-dimensional separable filter HPP, two-dimensional filter ONE having the same dimensions of two-dimensional separable filter HPP with the only non-zero entry of value 1 being located at the center of two-dimensional filter ONE;

subtracting two-dimensional separable filter HPP from two-dimensional filter ONE to create matrix (HPPinv);

convolving two-dimensional separable filter LPP with matrix HPPinv to obtain non-separable filter DSCRN having dimensions: $\{2m+2n+1, 2m+2n+1\}$;

generating a two-dimensional contour plot for non-separable filter DSCRN; and/or

constructing a filter, for utilization with a rendering device, to eliminate moiré in a rendered image when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry, the filter being constructed of two-dimensional separable filter LLP and two-dimensional separable filter HHP.

To meet this deficiency in the teachings of <u>Williams et al</u>., the Examiner proposes to modify the teachings of <u>Williams et al</u> with the teachings of <u>Wilkinson</u>. The Examiner alleges that <u>Wilkinson</u> teaches selecting a cut-off frequency and designing therefrom a

one-dimensional separable low pass filter (LP), one-dimensional separable low pass filter LP being a row vector having entries $[X_{-n}, X_{-(n-1)}, \ldots X_0, \ldots X_{n-1}, X_n]$ and convolving two-dimensional separable filter LPP with matrix HPPinv to obtain non-separable filter DSCRN having dimensions: {2m+2n+1, 2m+2n+1}.

However, the Examiner asserts that the combination of <u>Williams et al</u>. and <u>Wilkinson</u> fails to teach:

generating a two-dimensional contour plot for the two-dimensional filter HPP;

generating a two-dimensional filter (ONE) when the two-dimensional contour plot for the two-dimensional separable filter LPP overlaps the two-dimensional contour plot for the two-dimensional separable filter HPP, two-dimensional filter ONE having the same dimensions of two-dimensional separable filter HPP with the only non-zero entry of value 1 being located at the center of two-dimensional filter ONE;

subtracting two-dimensional separable filter HPP from two-dimensional filter ONE to create matrix (HPPinv);

generating a two-dimensional contour plot for non-separable filter DSCRN; and/or

constructing a filter, for utilization with a rendering device, to eliminate moiré in a rendered image when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry, the filter being constructed of two-dimensional separable filter LLP and two-dimensional separable filter HHP.

To meet this deficiency in the combination of <u>Williams et al</u>. and <u>Wilkinson</u>, the Examiner proposes to modify the combination of <u>Williams et al</u>. and <u>Wilkinson</u> with the teachings of <u>Mendonca</u>. The Examiner alleges that <u>Mendonca</u> teaches generating a two-dimensional contour plot for the two-dimensional filter HPP; generating a two-dimensional filter (ONE) when the two-dimensional contour plot for the two-dimensional separable filter LPP overlaps the two-dimensional contour plot for the two-dimensional separable filter HPP, two-dimensional filter ONE having the same dimensions of two-dimensional separable filter HPP with the only non-zero entry of value 1 being located

at the center of two-dimensional filter ONE; subtracting two-dimensional separable filter HPP from two-dimensional filter ONE to create matrix (HPPinv); and generating a two-dimensional contour plot for non-separable filter DSCRN.

Moreover, the Examiner asserts that the combination of Williams et al. Wilkinson and Mendonca fails to teach constructing a filter, for utilization with a rendering device, to eliminate moiré in a rendered image when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry, the filter being constructed of two-dimensional separable filter LLP and two-dimensional separable filter HHP.

To meet this deficiency in the combination of Williams et al. Wilkinson and Mendonca, the Examiner proposes to modify the combination of Williams et al. Wilkinson and Mendonca with the teachings of Curry et al. The Examiner alleges that Curry et al. teaches constructing a filter, for utilization with a rendering device, to eliminate moiré in a rendered image when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry, the filter being constructed of two-dimensional separable filter LLP and two-dimensional separable filter HHP.

From these allegations, the Examiner concludes that the presently claimed invention would be obvious to one of ordinary skill in the art with respect to the teachings of Williams et al. Wilkinson, Mendonca, and Curry et al. These allegations and conclusion are respectfully traversed.

As respectfully submitted above, independent claim 1 recites a method for descreening a digital image. The method selects a cut-off frequency and designing therefrom a one-dimensional separable low pass filter (LP), LP being a row vector having entries $[X_{-n}, X_{-(n-1)}, \ldots X_0, \ldots X_{n-1}, X_n]$; obtains a two-dimensional filter LPP by performing the operation: LP* X LP, LP* being a column vector having the same entries as LP, LPP having dimensions given by: $\{2n+1, 2n+1\}$; generating a two-dimensional contour plot for the two-dimensional filter LPP; designs a one-dimensional separable high pass filter (HP), HP being a row vector having entries $[Y_{-m}, Y_{-(m-1)}, \ldots Y_0, \ldots Y_{m-1}, Y_m]$; obtains a two-dimensional filter HPP by performing the operation: HP* X HP, HP* being a column vector having the same entries as HP, HPP having dimensions: $\{2m+1, 2m+1\}$; generates a two-dimensional contour plot for the two-dimensional filter HPP;

generates a two-dimensional filter (ONE) when the two-dimensional contour plot for the two-dimensional separable filter LPP overlaps the two-dimensional contour plot for the two-dimensional separable filter HPP, ONE having the same dimensions of HPP with the only non-zero entry of value 1 being located at the center of ONE; and subtracts HPP from ONE to create matrix HPPinv; convolves LPP with HPPinv to obtain DSCRN having dimensions: {2m+2n+1, 2m+2n+1}; generates a two-dimensional contour plot for DSCRN.

The claimed method also selects two-dimensional separable filter LLP and two-dimensional separable filter HHP when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry; repeats (a)-(j) when the two-dimensional contour plot for non-separable filter DSCRN is not an approximation to a desired circular symmetry; electronically applies the selected two-dimensional separable filter LLP to a digital image to produce a first filtered image; electronically applies the selected two-dimensional separable filter HHP to a digital image to produce a second filtered image; and subtracts the second filtered image from the first filtered image to generate a descreened digital image.

With respect to Williams et al., Wilkinson, Mendonca, and/or Curry et al., each of these references fails to teach, disclose, or suggest selecting two-dimensional separable filter LLP and two-dimensional separable filter HHP when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry; repeating (a)-(j) when the two-dimensional contour plot for non-separable filter DSCRN is not an approximation to a desired circular symmetry; electronically applying the selected two-dimensional separable filter LLP to a digital image to produce a first filtered image; electronically applying the selected two-dimensional separable filter HHP to a digital image to produce a second filtered image; and/or subtracting the second filtered image from the first filtered image to generate a descreened digital image.

Therefore, since Williams et al., Wilkinson, Mendonca, and/or Curry et al. fail to teach, disclose, or suggest selecting two-dimensional separable filter LLP and two-dimensional separable filter HHP when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry; repeating (a)-(j) when the two-dimensional contour plot for non-separable filter DSCRN is not an

approximation to a desired circular symmetry; electronically applying the selected two-dimensional separable filter LLP to a digital image to produce a first filtered image; electronically applying the selected two-dimensional separable filter HHP to a digital image to produce a second filtered image; and/or subtracting the second filtered image from the first filtered image to generate a descreened digital image; the proposed combination of <u>Williams et al.</u> in view of <u>Wilkinson</u>, <u>Mendonca</u>, and <u>Curry et al.</u> fails to teach, disclose, or suggest selecting two-dimensional separable filter LLP and two-dimensional separable filter HHP when the two-dimensional contour plot for non-separable filter DSCRN is an approximation to a desired circular symmetry; repeating (a)-(j) when the two-dimensional contour plot for non-separable filter DSCRN is not an approximation to a desired circular symmetry; electronically applying the selected two-dimensional separable filter LLP to a digital image to produce a first filtered image; electronically applying the selected two-dimensional separable filter HHP to a digital image to produce a second filtered image; and/or subtracting the second filtered image from the first filtered image to generate a descreened digital image.

Accordingly, in view of all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw the present rejection under 35 U.S.C. §103.

D. Entry of Amendments under 37 C.F.R. 1.116

The Examiner is respectfully requested to enter the above amendments under 37 C.F.R. 1.116 because such amendments could not have been presented at an earlier time, for the following reasons.

As submitted above, the Examiner did not object to the Abstract in the First Office Action, dated May 7, 2007. Moreover, this new objection to the Abstract was not necessitated by Applicant's amendment because the Applicant did previously amend the Abstract. Therefore, since it is/was impossible for the Applicant to anticipate the Examiner's reversal with respect to the acceptability of the originally submitted Abstract, the present amendments to the Abstract are timely and could not have been presented at an earlier time.

Furthermore, as submitted above, the Examiner did not reject the claims based upon a lack of enablement in the First Office Action, dated May 7, 2007, because the

Examiner asserted that the claims fail to set forth a specific utility. In the present Office action, the Examiner has presented new grounds for rejection wherein the Examiner asserts that claim 1 is not enabled by the specification because the claim requires a processor or device to carry out the claimed method. Therefore, since it is/was impossible for the Applicant to anticipate the Examiner's reversal with respect to the enablement of the originally submitted Specification, the present amendments to the claim are timely and could not have been presented at an earlier time.

The Examiner is also respectfully requested to enter the above amendments under 37 C.F.R. 1.116 because the amendments place the application in condition for allowance and materially reduce and simplify the issues, thereby placing the application in better condition for Appeal. Lastly, the Examiner is also respectfully requested to enter the above amendments under 37 C.F.R. 1.116 because the amendments do not require any further consideration and/or search and do not raise the issue of new matter. Accordingly, entry of these amendments under 37 C.F.R. 1.116 is proper.

CONCLUSION

Accordingly, in view of all the reasons set forth above, the Examiner is respectfully requested to reconsider and withdraw all the present rejections. Also, an early indication of allowability is earnestly solicited.

Respectfully submitted,

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